

**REMARKS**

Reconsideration of the application, as presently amended, is respectfully requested. Claims 1-27 have been canceled. New claims 28-48 have been added. No claims have been amended.

Claim 24 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as the invention. Claim 24 has been canceled, thereby rendering the rejection thereof moot.

Claims 1-21 and 23-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,410,322 to Sonoda ("Sonoda"). Sonoda has been cited as teaching a loaded antenna with a radiator 2' and coplanar loading elements 21a-d disposed on a perimeter thereof. Sonoda has also been cited as teaching that the width of each loading strip is less than a quarter of the longest edge of the radiator 2a. The Office Action posits that, since the strips control resonant frequency, the skilled artisan would have found it obvious in considering such strips as "loading" the radiator element.

Sonoda is directed to a circularly polarized wave microstrip antenna and frequency adjusting method. In the antenna, a ground conductor 3 and a radiation conductor 2 are provided respectfully on one surface and the other surface of a dielectric substrate 4. The Office Action cites particularly to FIGURE 11 of Sonoda. FIGURE 11 illustrates a radiation conductor of a circularly polarized wave microstrip antenna. A rectangular radiation conductor 2' includes projections 21a-d, notches 23a-c, and frequency-adjusting projections 22a-d.

Applicant respectfully submits that Sonoda fails to teach or suggest at least one of the distinguishing features of new independent claim 28, namely, at least one conducting surface having at least a portion that is a multi-level structure comprising a plurality of polygons, all of the plurality of polygons having at least four and the same number of sides, a plurality of the plurality of polygons being electromagnetically coupled via capacitive coupling or ohmic contact to define a plurality of contact regions and wherein, for at least 75% of the plurality of electromagnetically coupled polygons, a contact region is less than 50% of the perimeter of an electromagnetically coupled polygon.


Applicant further respectfully submits that Sonoda fails to teach or suggest at least one of the distinguishing features of new independent claim 39, namely, a loading structure including at least one conducting strip, wherein the at least one conducting strip is shaped as a space-filling curve comprising at least ten segments as claimed.

Applicant further respectfully submits that Sonoda fails to teach or suggest at least one of the distinguishing features of new independent claim 48, namely, at least one conducting surface having at least a portion that is a multilevel structure comprising a plurality of polygons, all of the plurality of polygons having at least four and the same number of sides, the plurality of polygons being generally identifiable by the free perimeter thereof as a geometrical element and projection of the exposed perimeters of the plurality of polygons defining the least number of polygons necessary to form a generally distinguishable element where polygon perimeters are interconnected, a plurality of the plurality of polygons being electromagnetically contact via capacitive coupling or ohmic coupling or ohmic contact to define a plurality of contact regions and wherein, for at least 75% of the plurality of electromagnetically coupled polygons, a contact region is less than 50% of the perimeter of an electromagnetically coupled polygon.

Applicant respectfully submits that new independent claims 28, 39, and 48 distinguish over Sonoda in a patentable sense. Dependent claims 29-38 and 40-47 depend from and further limit independent claims 29 and 39, respectively. Each of these dependent claims is therefore deemed to distinguish over Sonoda for at least the same reasons as those set forth above with respect to independent claims 28 and 39. Applicant respectfully submits that all pending claims are in condition for allowance. A Notice to that effect is respectfully requested.

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Respectfully submitted,

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